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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/552,727	07/07/2006	Vesa Korhonen	034382-005	9453
21839 7590 12/31/2007 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER BASINGER, SHERMAN D	
			ART UNIT 3617	PAPER NUMBER
			NOTIFICATION DATE 12/31/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com  
debra.hawkins@bipc.com

**Office Action Summary**

Application No.

10/552,727

Applicant(s)

KORHONEN ET AL.

Examiner

Sherman D. Basinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

DETAILED ACTION

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 6, 8-11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Krautkremer et al.

Krautkremer et al discloses for claim 1 a method for controlling a propulsion drive, which drive comprises at least one first propeller drive 10, 25a, 8 and 6, which rotates a first propeller 4, and by which the propulsion power and/or rotating speed of the first propeller is adjusted, and at least one second propeller drive 11, 25b, 7 and 9, by which a second propeller 5 is rotated and adjusted, whereby the first and the second propeller drive are essentially separated from each other, wherein the method comprises controlling the propulsion drive by a single control command 18, whereby a first control signal 19, 22 and 24 for controlling the first propeller drive, and a second control signal 20, 21 and 23 for controlling the second propeller drive, are generated from the control command.

For claim 2, it is inherent that the first and the second control signals are generated to result in an optimal combined propulsion and/or steering power.

For claim 3, see figure 8a where the propellers driven by the first and the second propeller drives are arranged on the essentially same horizontal level, and that the propellers are rotated in the opposite directions.

For claims 6 and 8-10 see column 4, lines 8-13.

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For claim 11, see column 4, lines 8-13, column 6, lines 29-54 and column 6, lines 60-65.

Krautkremer et al discloses for claim 12 an apparatus for controlling a propulsion drive, which comprises  
at least one first propeller drive 10, 25a, 6 and 8 which rotates a first propeller 4, and by which the propulsion  
power and/or the rotating speed is controllable (see column 4, lines 8-13), and at least one second propeller drive 11, 25b, 7 and 9  
which a second propeller 5 is rotatable and controllable, whereby the first and the second  
propeller drive are essentially separated from each other, that wherein the apparatus comprises a control device 18 to control the propulsion drive by a single control  
command 50, whereby based on the control command 50 the control device generates a first  
control signal 19, 22, 24, by which the first propeller drive is controllable, and a second control signal 20, 21 and 23,  
by which the second propulsion drive is controllable.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langenberg et al in view of Krautkremer et al.

Langenberg et al discloses for claim 1, a method for controlling a propulsion drive, which drive  
comprises at least one first propeller drive 201, 203, 204, which rotates a first propeller 5, and by which the  
propulsion power and/or rotating speed of the first propeller is adjusted, and at least one second propeller drive 103, 101 and 102 by which a second propeller 1 is rotated and

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adjusted, whereby the first and the second propeller drive are essentially separated from each other.

Langenberg et al does not disclose that the propulsion drives are controlled by a single control command, whereby a first control signal for controlling the first propeller drive, and a second control signal for controlling the second propeller drive, are generated from the control command.

Krautkremer et al discloses his propulsion drive is controlled by a single control command 50, 18, whereby a first control signal 19, 22 and 24 for controlling a first propeller drive 6, 8, 10 and 25a, and a second control signal 20, 21 and 23 for controlling a second propeller drive 7, 9, 11 and 25b, are generated from the control command.

In view of 50 and 18 of Krautkremer et al it would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to provide to Langenberg et al a single control command similar to 50 of Krautkremer et al whereby a first control signal for controlling the first propeller drive 101, and a second control signal for controlling the second propeller drive 201 are generated from the control command.

Motivation to do so is to combine control of the propeller drives from one input device through a microprocessor.

For claim 4, 201 is clearly an electrical motor that has been arranged into an azimuth pod.

For claim 5, the second propeller drive is a power engine 101 that has been arranged on a fixed shaft.

In Langenberg et al both propellers 1 and 5 clearly have fixed blades.

***Response to Arguments***

5. Applicant's arguments filed December 3, 2007 have been fully considered but they are not persuasive. Applicant argues that the Office Action rejects claims 1-3, 6, 8-11 and 12 under 35 U.S.C. § 102(b) over U.S. Patent No. 4,519,335 to Krautkremer et al.; and rejects claims 1, 4 and 7 under 35 U.S.C. § 103(a) over U.S. Patent No. 5,795,199 to Langenberg et al. in view of Krautkremer et al. These rejections are respectfully traversed.

Applicants' independent claim 1 recites a method for controlling a propulsion drive comprising at least one first propeller drive and at least one second propeller drive. The first and second propeller drives are essentially separated from each other. The method comprises controlling the propulsion drive by a single control command whereby a first control signal for controlling the first propeller drive and a second control signal for controlling the second propeller drive are generated from the control command. Independent claim 12 recites an apparatus for controlling a propulsion drive including at least one first propeller drive and at least one second propeller drive. The control device controls the propulsion drive by a single control command. Based on the control command, the control device generates a first control signal by which the first propeller drive is controllable and a second control signal by which the second propulsion drive is controllable. These features encompass applicants' exemplary embodiment as illustrated in Fig. 2 wherein control commands are given on the bridge 26. The control commands are transferred to the CRP control unit 34 which defines the control signals to be forwarded to different propulsion units. From the CRP control, a control signal is sent to the control unit 36 for azimuth propulsion which defines the rotation speed of the motor 14 driving the propulsion unit and the rotation speed of the propeller 4. Another control signal from the CRP control 34 is sent to the control unit 38 of the main propeller, which based on the control signal defines rotation speed of the propeller 2 and the blade angle of the propeller so that the required propulsion power is generated.

In the Krautkremer patent three distinct command signals are forwarded to the microcomputer to generate control signals to the propeller drives. Propeller drives are controlled by the several control signals. A first potentiometer 12 operated by a lever 15 through the microcomputer 18 changes the thrust strength by adjusting the angular position of the propellers 4 and 5, by changing the speeds of the motors 10 and 11, and/or by changing the pitch of the propeller blades. The second

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potentiometer 13 operates by a head 16 through the microcomputer 18 and controls rotation-free transverse movement of the watercraft by pivoting the steerable propellers or by changing the speed or pitch of the propeller blades. The third potentiometer 14 is operated by handle 17 through the microcomputer 18 and controls the rotation of the watercraft according to the desired direction and degree of rotation. The three potentiometers 12, 13 and 14 act on the microcomputer 18 which outputs signals to course-dependent control devices 19-24. Course-dependent control devices 19-24 are typically amplifiers with electronic compensating circuits which adjust output signals from microcomputer 18 to a form compatible with the control units of the devices which are being controlled. Thus,

Krautkremer does not disclose, controlling the propulsion drive by a single control command as in Applicants' independent claims 1 and 12.

In rebuttal, Krautkremer does disclose controlling the propulsion drive as claimed in claim 1. The microcomputer 18 of Krautkremer is the single control command of claim 1. The first control signal can be either of signals 19, 22 or 24. The second control signal can be either of the signals 20, 21, or 23. Claim 1 has not defined the single control command such that microcomputer cannot be the single control command.

With respect to claim 12, the single control command is 50. Interpretation of "single control command" in the broadest sense, allows one to state that input device 50 is a single control command as it is a single device. Interpretation of "single control command" in the broadest sense, allows one to also state that microcomputer 18 is a single control command. It is a single microcomputer providing control commands for each of the drives of Krautkremer.

Applicant argues that with respect to the rejection over the Langenberg patent in view of the

Krautkremer patent, the Office Action recognizes that the Langenberg patent does not disclose that the propulsion drives are controlled by a single control command whereby a first control signal for controlling the first propeller drive and a second control signal for controlling the second propeller drive are generated from the control command. The Langenberg patent simply does not disclose how commands are issued. Applicants respectfully disagree with the Office Action's assertion that the Krautkremer patent overcomes the deficiencies of the Langenberg patent. As discussed above, the Krautkremer patent discloses three potentiometers for control..

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In rebuttal, as argued above with respect to the rejection of claim 1 with Krautkremer alone, Krautkremer does disclose the single control command. For claim 1, the single control command is 18 of Krautkremer. There is only one microcomputer, making it a single microcomputer. The microcomputer controls the propellers and commands them to perform for steering and thrust. Thus microcomputer 18 of Krautkremer is a single control command.

Applicant argues that he respectfully disagrees with the Office Action's assertion that one of ordinary skill would have been motivated to include the control of the Krautkremer patent in the Langenberg patent. The Langenberg patent provides a forward propeller and an aft propeller each driven by means of a separate propulsion system. As stated in the Abstract, the aft propeller is preferably driven by means of a separate drive system. Thus, the Langenberg patent teaches away from the control disclosed in the Krautkremer patent.

This argument is not persuasive because in Krautkremer there are two propellers each driven by means of a separate propulsion system. However, these separate propulsion systems are controlled by one microcomputer. No reason why a single microcomputer similar to 18 of Krautkremer cannot be used to control the two separate drives of Langenberg.

Applicant argues that the remaining dependent claims are allowable for at least the reasons discussed above as well as for the individual features they recite. For example, dependent claim 3 recites the propellers driven by the first and the second propeller (drives) are arranged on the essentially same horizontal level and that the



propellers are rotated in the opposite directions. These features are not disclosed by the cited art.

In rebuttal, figure 8a of Krautkremer discloses what is claimed in claim 3. As shown in figure 8a, the propellers are arranged on essentially the same horizontal level and are rotated for steering in opposite directions. If applicant is claiming counter rotation of the propellers, claim 3 requires amending to make this clear.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sherman D. Basinger whose telephone number is 571-272-6679. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samuel J. Morano can be reached on 571-272-6684. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sherman Basinger/  
Sherman Basinger, PE  
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12/21/07